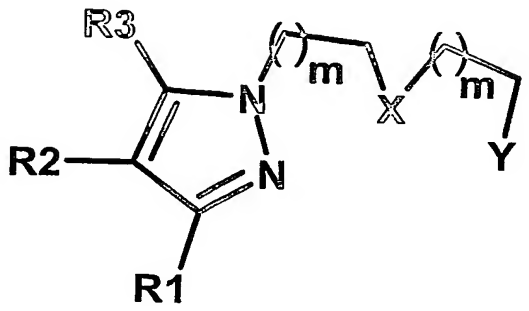
CLAIMS

1. Chelating agent of the general formula:



(I)

wherein m is 0 or 1;

X is NR_4 or S;

Y is SR_5, NHR_5 or $P(R_5)_2$;

R_1 and R_3 are the same or different and are selected from H, alkyl or aryl;

R_2 is H, COOH, NHR_6 or $(CH_2)_nCOOR_6$;

R_4 is H, alkyl, aryl, $(CH_2)_nCOOR_6$ or $(CH_2)_nOR_6$;

R_5 is H, alkyl, aryl, $(CH_2)_nCOOR_6$ or $(CH_2)_nOR_6$

R_6 is H, alkyl or aryl;

n is 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10; and

when $R_1=R_3=CH_3$, R_2, R_4 and R_5 are not all three H.

2. Chelating agent as claimed in claim 1, wherein the alkyl is a C_1 alkyl, C_2 alkyl, C_3 alkyl, C_4 alkyl, C_5 alkyl or C_6 alkyl.

3. Chelating agent as claimed in claim 2, wherein the alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *s*-butyl, *t*-butyl, *n*-pentyl, isopentyl, neopentyl, *n*-hexyl, isohexyl (2-methylpentyl), neohexyl (2,2-dimethylbutyl), 3-methylpentyl, 2,3-dimethylbutyl.

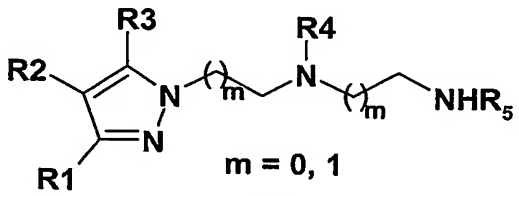
4. Chelating agent as claimed in claim 1, wherein the aryl is monocyclic, preferably phenyl or benzyl, or

polycyclic, C_{10}-C_{18}, and optionally substituted with alkyl, carboxy, oxo, amino, alkoxy or aldehyde groups.

5. Chelating agent as claimed in claim 4, wherein aryl is phenyl or benzyl.

6. Chelating agent as claimed in claim 1, wherein n is 2, 3, 4, 5 or 6 and preferably 2, 3 or 4.

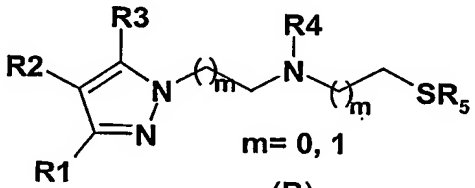
7. Chelating agent as claimed in claim 1, which agent is a pyrazolyl-polyamine of the general formula:



(A)

wherein R_1, R_2, R_3, R_4 and R_5 are as defined in claim 1.

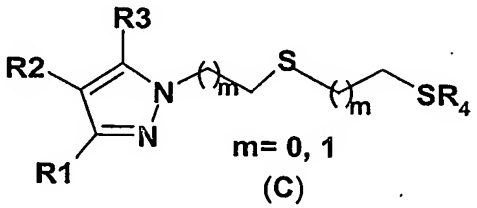
8. Chelating agent as claimed in claim 1, which agent is a pyrazolyl-aminothioether of the general formula:



(B)

wherein R_1, R_2, R_3, R_4 and R_5 are as defined in claim 1.

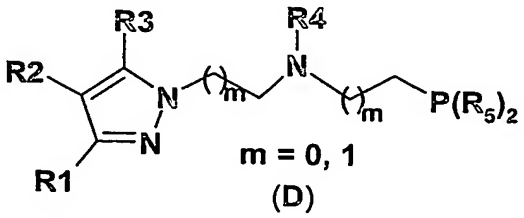
9. Chelating agent as claimed in claim 1, which agent is a pyrazolyl-polythioether of the general formula:



(C)

wherein R_1, R_2, R_3, R_4 and R_5 are as defined in claim 1.

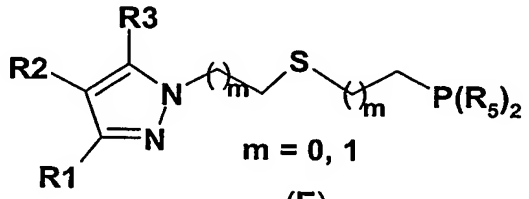
10. Chelating agent as claimed in claim 1, which agent is a pyrazolyl-aminophosphine of the general formula:



(D)

wherein R_1, R_2, R_3, R_4 and R_5 are as defined in claim 1.

11. Chelating agent as claimed in claim 1, which agent is a pyrazolyl-thioetherphosphine of the general formula:



(E)

wherein R_1, R_2, R_3, R_4 and R_5 are as defined in claim 1.

12. Chelating agent as claimed in claim 1, wherein X and Y are N, R_6 is H, C_1 alkyl, C_2 alkyl, C_3 alkyl, C_4 alkyl, C_5 alkyl or C_6 alkyl, phenyl, benzyl or a biomolecule and R_1, R_2, R_3, R_4 and R_5 are as listed in Table 1.

13. Chelating agent as claimed in claim 1, wherein X and Y are S, R_6 is H, C_1 alkyl, C_2 alkyl, C_3 alkyl, C_4 alkyl, C_5 alkyl or C_6 alkyl, phenyl, benzyl or a biomolecule and R_1, R_2, R_3, R_4 and R_5 are as listed in Table 1.

14. Chelating agent as claimed in claim 1, wherein X is N and Y is S, R_6 is H, C_1 alkyl, C_2 alkyl, C_3 alkyl, C_4 alkyl, C_5 alkyl or C_6 alkyl, phenyl, benzyl or a biomolecule and R_1, R_2, R_3, R_4 and R_5 are as listed in Table 1.

15. Chelating agent as claimed in claim 1, wherein X is S and Y is N, R_6 is H, C_1 alkyl, C_2 alkyl, C_3 alkyl, C_4 alkyl, C_5 alkyl or C_6 alkyl, phenyl, benzyl or a biomolecule and R_1, R_2, R_3, R_4 and R_5 are as listed in Table 1.

16. Chelating agent as claimed in claim 1, wherein X is S and Y is $P(R_5)_2$,, R_6 is H, C_1 alkyl, C_2 alkyl, C_3 alkyl, C_4 alkyl, C_5 alkyl or C_6 alkyl, phenyl, benzyl or a biomolecule and R_1, R_2, R_3, R_4 and R_5 are as listed in Table 1.

17. Chelating agent as claimed in claim 1, wherein X is N and Y is $P(R_5)_2$, R_6 is H, C_1 alkyl, C_2 alkyl, C_3 alkyl, C_4 alkyl, C_5 alkyl or C_6 alkyl, phenyl, benzyl or a biomolecule and R_1, R_2, R_3, R_4 and R_5 are as listed in Table 1.

18. Chelating agent as claimed in claim 1, wherein R_6 is a biomolecule.

19. Chelating agent as claimed in claim 18, wherein the biomolecule is selected from amino acids, peptides, proteins, oligonucleotides, polynucleotides, sugars.

20. Chelating agent as claimed in claim 19, wherein the biomolecule is selected from the group consisting of antibodies, ligands of tumor receptors.

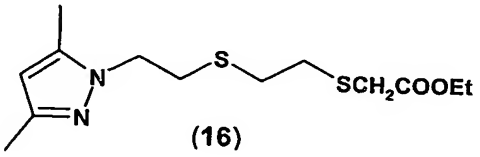
21. Chelating agent as claimed in claim 19, wherein the biomolecule is selected from the group consisting of CCK, thioglucose, glucosamine, somatostatin, neurotensin, bombesin, CCK, annexin, interleukins, growth factors, steroid hormones and molecules binding to GPIIb/IIIa receptors.

22. Chelating agent as claimed in claim 19, wherein the biomolecule is selected from the group consisting of glucose, thioglucose, neurotransmitters.

23. Chelating agent as claimed in claim 19, wherein the biomolecule is an inhibitor of the tyrosine kinase

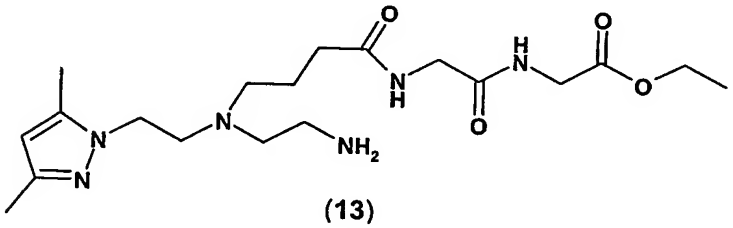
activity, such as benzothiopyranones, anilinophthalimides, quinazolines, pyridopyrimidines and pyrrolopyrimidines.

24. Chelating agent as claimed in claim 1, which agent is a compound of the following formula:



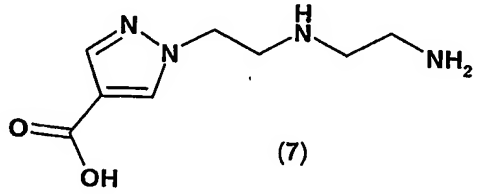
(16)

25. Chelating agent as claimed
agent is a compound of the following fo_____.



(13)

26. Chelating agent as claimed in claim 1, which agent is a compound of the following formula:



(7)

27. Chelating agent as claimed in claim 1, wherein the agent is complexed with a carbonyl moiety of the formula $[M(CO)_3]^+$, wherein M is rhenium (Re), technetium (Tc) or manganese (Mn).

28. Chelating agent as claimed in claim 18, wherein the agent is complexed with a carbonyl moiety of the formula $[M(CO)_3]^+$, wherein M is rhenium (Re) or technetium (Tc).

29. Method for the preparation of radiolabeled biomolecules comprising:

a) contacting a chelating agent as claimed in claim 1 with a carbonyl moiety of the formula $[M(CO)_3]^+$, wherein M is rhenium (Re) or technetium (Tc), under conditions for forming a chelator-carbonyl complex; and

b) contacting the complex with a biomolecule for obtaining a radiolabeled biomolecule.

30. Kit for performing the method as claimed in claim 29, comprising a first vial with the chelating agent of the invention, optionally a first reaction vial for contacting the chelating agent with the carbonyl moiety, a second vial with the biomolecule and optionally a second reaction vial for reacting the biomolecule with the chelator-carbonyl complex obtained in the first step of the reaction.

31. Method for the preparation of radiolabeled biomolecules comprising:

a) contacting a chelating agent as claimed in claim 1 with a biomolecule for obtaining a chelator-biomolecule; and

b) contacting the chelator-biomolecule with a carbonyl moiety of the formula $[M(CO)_3]^+$, wherein M is rhenium (Re) or technetium (Tc), under conditions for forming a radiolabeled biomolecule.

32. Kit for performing the method as claimed in claim 31, comprising a first vial with the chelating agent of the invention, optionally a first reaction vial for reacting the chelating agent with the biomolecule, a second vial with the carbonyl moiety and optionally a second reaction vial for reacting the chelator-biomolecule obtained in the first step of the reaction with the carbonyl.

33. Chelating agent as claimed in claim 1 for use in

the preparation of a diagnostic or therapeutic agent for diagnosing or treating tumors.

34. Chelating agent as claimed in claim 27 for use as a diagnostic or therapeutic agent for diagnosing or treating tumors.

35. Use of a chelating agent as claimed in claim 1 for the preparation of a diagnostic or therapeutic agent for diagnosing or treating tumors.